



## **Cheekwood GROWS**

*Cheekwood Grows Garden (90 minutes) ~ 3<sup>rd</sup> Grade*

### **About**

During this program, students will learn about gardening, parts of a plant, the garden ecosystem, plant, and animal adaptations, and will gain an understanding of where their food comes from and be comfortable growing vegetables, harvesting, and eating them. Students will have the opportunity to plant seeds and transplant seedlings into their class garden bed at Cheekwood. Next, students will identify and track common pollinators found within the garden and learn about plant and animal adaptations. Then, students will learn how to identify when a vegetable is ready to harvest and the proper technique to do so. This will be followed by students tasting what they harvested. Lastly, the students will plant seeds to take back with them to the classroom, make plant labels, and personalize their class garden sign.

### **Objectives**

1. Students will understand what a plant needs to grow by reading seed packets and accurately measuring the garden bed and planting seeds.
2. Students will learn about companion planting and its benefits through the seeds they plant in their garden bed.
4. Students will be able to identify common pollinators and learn about why different pollinators are attracted to various kinds of flowers in addition to other types of plant adaptations.
5. Students will be able to identify vegetables that are ready to be harvested and learn the proper technique. Students also will be able to identify the part of the plant they are harvesting and then tasting.
6. Students will be able to monitor plant growth and understand how different growing conditions can impact growth.

### **Cheekwood GROWS Garden**

Opening in June 2022, the Cheekwood GROWS garden is a brand-new kitchen and cutting garden located behind the Frist Learning Center. A kitchen garden is a scaled down version of a vegetable garden that enables you to experience the magic of growing and enjoying your own food. The Cheekwood GROWS garden is a space where children can be hands on

in learning about plants and where their food comes from. Children will be able to see plants and vegetables that they recognize as well as ones that are new to them. Children will have the opportunity in this space to plant, water, harvest, and taste. This garden will encourage children to feel empowered to grow vegetables at home.

## **Vocabulary**

Companion planting- growing different plants close together for the benefit of one or more of those plants.

Pollination- the process of pollen moving from flower to flower allowing plants to reproduce.

Soil- loose material which lies on top of the land that is filled with living and non-living organisms, air, and water.

Seedling- a young plant that grows from a seed.

Germination- the very beginning of the growth of a seed into a seedling.

Perennial-a plant that is present at all seasons of the year, persisting for several years usually with new growth.

Annual- a plant that only has one growing season.

Crop- a plant or plant product that is grown and harvested.

Sowing- the act of scattering seeds on land or on soil so that they may grow.

Transplanting- moving a fully germinated seedling from one place to another, typically from a small pot or tray into a larger pot or the ground.

Ecosystem- a system of living and non-living things interacting in nature.

Biodiversity- the variety of life in the world or in a particular habitat or ecosystem.

Adaptation- the process whereby an organism becomes better able to live in its habitat or habitats.

Beneficial insects- insects that have positive effects on a garden or landscape, as they aid in pollination or help eliminate insects that can harm the garden.

Invasive- any nonnative species (insects, plants) that disturbs the ecosystems in which it has been introduced.

Composting- the process of the breakdown of natural, organic matter such as leaves, food waste and plants to then be used as a fertilizer.

Harvesting-the process of gathering a ripe crop from the garden.

Indigenous- naturally occurring in a particular place, such as plants producing food that is originally grown and produced by nature in a particular region.

Grow zone- a geographical area describing where certain plants can grow.

Fiber- found in plants, helps to keep the digestive tract healthy.

Vitamins- substances that our body requires to grow and remain healthy.

### **Standards Covered**

**3.LS1.1)** Analyze the internal and external structures that aquatic and land animals/plants have to support survival, growth, behavior, and reproduction.

**3.LS4.1)** Explain the cause-and-effect relationship between a naturally changing environment and an organism's ability to survive.

**3.LS4.2)** Infer that plant and animal adaptations help them survive in land and aquatic biomes.

**3.LS4.3)** Explain how changes to an environment's biodiversity influence human resources.

**3.MD.B.4)** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units: whole numbers, halves, or quarters.

**3.MD.D.8)** Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exploring rectangles with the same perimeter and different areas or with the same area and different perimeters.

### **Pre-Visit**

The pre-visit will consist of an in-person meeting between the Garden Educator and the class at the school. There will be a PowerPoint presentation that is shared about Cheekwood's history and gives a brief introduction on what the student's will be learning during their Cheekwood Visit. During this visit, a few questions will be asked about plant parts, the lifecycle of a plant, and recognition of various vegetables to assess students' knowledge before their field trip. Teachers will receive activity suggestions prior to their visit to help students review parts of a plant.

### **Cheekwood Field Trip**

1. Students will start off at the Frist Learning Center where they will have just gotten off their bus. As soon as students are off the buses, there will be a quick review of the guidelines we ask students to follow while here. They will also be reminded of the four stations that were discussed in the pre-visit.
2. Teachers will already have students pre-assigned to four groups and will assist in dividing them into their groups.
3. One volunteer will be stationed at each activity with the planting activity being led by the Garden educator.
4. Students make their way over to the GROWS garden and will begin their stations.

- a. STATION ONE: Planting (*20 minutes*)
  - i. During this station, the students will learn all about how to plant seeds as well as transplant seedlings into a garden bed. The students will learn about companion planting and the benefits, the plants they select will be planted in the theme of companion planting to encourage a healthy garden ecosystem.
  - ii. Students will have to work together as a group to figure out what they would like to plant, read the information on the back of a seed packet, determine the specific depth/space the seed needs, and mark the beds. The students will also need to determine how long it take for the plant to mature, number of leaves, petals, fruits, or height measurements. They will later translate this information in the form of a chart or graph. Students will also appropriately label the garden beds.
- b. STATION TWO: Garden Ecosystem & Adaptations (*20 minutes*)
  - i. At this station, students will learn about pollinators and discusses plant adaptations. They will learn why certain pollinators are attracted to certain plants be discussing flower shape and color and investigate and discuss other plant adaptations such as smells and thorns which repel pests.
- c. STATION THREE: Harvesting & Tasting (*20 minutes*)
  - i. Students will learn about which parts of plants are edible, how to care for and harvest plants to assure growth, such as rosemary needing to be continually cut back, basil needing to be harvested before flowering, so it does not get bitter, or pulling the outside leaves of kale plants to encourage growth from the center.
  - ii. Students will learn to identify vegetables that are ready to be harvested and learn the proper harvesting technique. Students will be able to identify the part of the plant they are harvesting and then taste what they have harvested.
  - iii. Students will discuss their thoughts on what they tasted using descriptive words instead of just saying the liked it or disliked it. We will compare their thoughts on if they like that vegetable before and after harvesting and tasting it to see if opinions have changed.
- d. STATION FOUR: Planting for the Classroom (*20 minutes*)
  - i. Students will plant selected seeds in containers to take back to the classroom. Seeds will also be planted by students to be left at Cheekwood, so that growth can be monitored and compared in both locations. Students will also personalize their class sign that will be displayed in their garden bed.

### **Post Visit Information**

After the field trip, using the seeds they planted and took back to the classroom, students will be able to modify growing conditions for the emerging plants, such as putting some in sunlight, some in shade, change watering patterns, etc. to see how plants are affected. Students will collect data from their observations and will enter the information on the Cheekwood GROWS website or by submitting it directly to the Garden Educator. The Garden Educator will be tracking plants simultaneously and sharing information with the classes. The Garden Educator will be available to answer questions about the plants growing in the classroom, trouble-shoot, or simply compare plants in real time via zoom.

Teachers will be given worksheets to help encourage tracking plant growth and experiments as well as a variety of other post-visit prompts to continue their learning and engagement with Cheekwood. One such activity would be the students participating in a cultural research project post visit to learn more about their favorite crop they observed while visiting the garden.

### **Post Visit Book Suggestions**

*From Seed to Plant* by Gail Gibbons

*Flower Talk: How Plants Use Color to Communicate* by Sara Levine

*Plants Fight Back* by Lisa J. Amstutz

*How Did That Get in My Lunchbox? The Story of Food* by Chris Butterworth

*Jump Into Science: Dirt* by Steve Tomecek

*Wiggling Worms at Work* by Wendy Pfeffer

### **Destination Cheekwood Family Field Trip**

Families will visit Cheekwood on a Saturday and can explore the grounds, as well as tour the Cheekwood GROWS garden to see student plants. Lunch will be provided and include a component of what is growing in the garden, although it may not come directly from the garden, depending on maturity of plant and size of group.

Families will be able to participate in an activity based on what the students have been learning about in the garden.

### **Culminating Program**

The Garden Educator will lead a culminating program, either at the school, Cheekwood, or via Zoom to wrap up the program. Teachers or the Garden Educator will ask a few assessment questions to gauge what students learned and took away from their field trip.